Issues and Potential Changes to NSF-140 to Advance Carpet Sustainability

NSF-140 Reference Number	Title	Issue of Concern	Potential Changes
	Scope	Rather than only focus on commercial carpet, could NSF-140 be expanded to include and address residential carpet as well, perhaps with two major sections, one for commercial carpet and one for residential carpet. 70 percent of carpet sold is residential so the scope of the standard is limited if it only covers commercial carpet.	Create sections within NSF-140 to address both commercial and residential carpet.
6.3.3.3.2 6.33.4 9.4 9.8	Life Cycle Assessment	• Are these sections too vague or soft? • Is the process robust and effective for integrating environmental components into product design? • The Standard allows manufacturers to achieve multiple points for meeting redundant criteria. The Standard allows manufacturers to receive points under three criteria totaling 17 points for life cycle assessment. Criterion 6.3.3.3.2 recognizes manufacturers' improvements using a 1986-1999 baseline. This criterion recognizes environmental improvements compared to 14-27 years ago. Manufacturers' current carpet platforms should be able to demonstrate environmental merit without having to compare their products to a baseline from decades past. • Similarly, criterion 6.3.3.4 uses a year 2000 baseline for the life cycle comparison and awards manufacturers up to eight additional points. Criterion 9.4 rewards manufacturers with three points for simply conducting an LCA. This particular criterion does not take into consideration the results of the LCA, only that it was performed. Therefore, manufacturers may produce a carpet with very high environmental impacts, but still receive additional points for conducting an LCA.	• Consolidate all points awarded with regard to LCA into applicable criteria for conducting an LCA and based upon evaluation of the results. It is suggested that points currently awarded for reductions in life cycle impacts be increased in value (criterion 6.3.3.4, up to 48 points). Life cycle impact assessment provides a science-based approach to evaluating reductions in environmental impacts and is a tool that can evaluate these products across all relevant environmental indicators. • Include all relevant environmental indicators in the LCA. • Utilize current industry baseline indicators as comparison for LCA, and not 1986-1999 baseline. • Award Manufacturers points for demonstrating through LCA reduced environmental impacts in relevant environmental impact indicators below current industry baseline indicators. • For Platinum certification, require a minimum percentage level of reduction of these relevant impacts.
7.2	Energy Inventory	• Manufacturers may receive additional points for redundant accounting of efficient energy use. Criterion 7.2.2.1 allows manufacturers to receive up to twelve points for documenting increased energy efficiency and/or the use of renewable energy. These reductions in energy use are also recognized, implicitly or explicitly, in several other places within the Standard, including 6.3.3.3.1 (reductions in GHGs) and criteria related to life cycle assessment (6.3.3.3.2; 6.3.3.4). • Manufacturers may also receive redundant points for providing an inventory of the energy use by fuel type (7.2.1) and for calculating their greenhouse gas emissions and reductions (7.2.4). Although the manner in which the data are presented in these two criteria are different, the outcome is the result of the same activities—thus manufacturers are being recognized twice for their actions to reduce energy use. Conversion of energy use to GHG emissions is an exercise in mathematics and should not be recognized as an additional effort towards reducing the environmental impact of the product.	Provide Manufacturers credit for energy reduction and reporting of GHG emissions. • Consider using industry average for baseline. • Award points for reducing GHG. • Do not weight Renewable Energy Credits (RECS) equally with energy reduction or the use of onsite generation. •Eliminate Redundant points (double counting).
8.3	Bio-based Content	Should the current Standard's practice of allowing equal credit for "bio-based content" as for post-consumer content continue? The following issues should to be considered when discussing bio-based content material: • Durability and end of life: In some cases bio-based materials are compostable, but often not. Bio-based plastics can complicate the recycling stream. • Processing: Many materials require extensive processing which can be quite energy-intensive, toxic, and polluting, and requiring fossil-fuel-based additives and processing aids. • Agriculture: intensive land use and deforestation, chemical use, fuel use, nutrient runoff and other pollution concerns. • Market realities & social justice: competition between food crops and crops used for fuel and products like carpet can disadvantage the already disadvantaged by raising the cost of food.	1. Reconsider suitability of bio-based plastics and use of coal fly ash. 2. Weight Bio-based content in a similar manner as pre-consumer content (e.g. 1/2 credit given).

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10.2.3	Product Reclamation	• What does reclaimed mean? Is it the portion of the product that is processed, i.e., the recycled output? • Current formula: Reclamation Rate = lbs of all product reclaimed (annually) / lbs of annual production of product being certified • Manufacturers can receive points for both collecting waste for recycling (10.2.3) and for recycling of the collected waste (8.3). Up to seventeen points may be awarded for reclamation of old carpets and twenty points for the use of these materials in new carpets (thirty-seven total). In addition, criteria 10.3 and 10.4 allow manufacturers to receive up to four additional points for reclaiming carpet and recycling into non-carpet products (10.3) and into new carpet products (10.4). These criteria can be further refined to eliminate double accounting of activities.	Revise the formula to account for total carpet manufactured by manufacturer, rather than only for the quantity that they choose to certify. The new formula: Reclamation Rate = lbs of all product reclaimed (annually) / lbs of total manufactured weight of annual carpet production
	Recyclability	Recycled Polyester fibers (PET), unlike other fiber types (nylon), have very limited markets and generally are not recyclable through a commercially viable process and until such a time, must be landfilled or combusted. The percentage of carpets manufactured from polyester fiber is increasing. In 2012 35% of carpets produced nationally were from PET. To promote the recycling of carpet manufactured from polyester fiber, we propose to add a new criterion to the standard for carpet purchases that the carpet be made from a fiber that is recyclable. Additionally, other recycled content is sometimes added to carpet that may decrease recyclability of product after its life.	Require all carpets to be 100% readily recyclable including face fiber with a 10% allowance for residuals at the Platinum level.
6	Public Health	All carpeting is already required to meet Green Label Plus requirements by CRI. Are there any portions of the standard that should be made more stringent? Is caprolactam a real concern that should be addressed? Nylon 6 (polycaprolactam) is a very durable fiber with excellent performance characteristics. Nylon 6 can be de-polymerized into back into its monomer capralactum. This allows for a closed loop recycling which has environmental benefits. • OEHHA has determined 8 hour reference exposure level (REL) and chronic reference exposure level CREL for caprolactam (a monomer used in the production of nylon 6 fiber from which nylon carpet is manufactured) at 7 µg/m3 (1.4 ppb) and 2.2 µg/m3 (0.5 ppb) respectively. The carpet industry opposes both REL and CREL on the ground that both OEHHA's process and their outcome are questionable and there is no demonstrated adherence to the notion of rigorous scientific inquiry. The industry maintains that the recommendations are totally inconsistent with other known levels for caprolactam. Under OEHHA's proposed recommendations, limits for carpet emissions of caprolactam would be 500 times stricter than current NIOSH requirements and 120 times more stringent than the current European levels. Furthermore, the industry points to the delisting of caprolactam by the US EPA from its air toxic contaminates list, thus regulating it to a category of chemicals of no concern. • To our knowledge, no version of CDPH's Standard Method (Section 01350) includes any reference levels for caprolactam, nor are there any plans to do so. Is this correct? • Given this is an issue that may come up in the future and since we are reviewing the NSF-140 standard, is it appropriate to consider this indoor air quality issue as part of our review of the standard?	• For CRI Green Label Plus and NSF-140, adopt and reference the new CDPH Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers, Version 1.1, February 2010. • Revise the standard to require that carpet purchases meet the 100 µg/m3 (old 1350 requirement) REL for caprolactam.